Coordinated Collection Development Issues and Efforts: Utilizing Technologies to Provide Information Services

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Academic research libraries in the United States and Western Europe experienced a decade of emphasis on automation from the mid-1970's well through the 1980's, introducing a new generation of possibilities and debuting automation products for the 1990's. Times were relatively flush for academic libraries and growth and expansion was the pattern of operation. As the last decade faded, and the 1990's are well underway, we begin to see a strong current indicating that the emphases for the 1990's will focus upon the economics of information and different personnel and staffing needs to operate the complex technological operations and transfer already common in academic libraries throughout the world. This conference poses the dilemma of whether the library environments are experiencing evolution or revolution in the merging new technologies with information services.

Bridging the technology gap is the outcome of these times and has been explored rather deeply by scholars in many academic fields as well as by librarians. The trend forcing the shift from ownership to access suggests that collection development activities will be of higher visibility because of more serious accountability regarding the materials budget. This broad subject entertains many ideas and concepts, however exploring only the framework for developing models to respond to the notion that research libraries, however large, well supported and historically enriched can not be all things to all users and how we can encourage and practice cooperation by utilizing technology is what will be addressed. Thus, we as librarians, must examine options in order to best utilize resources and space and preserve our collections and see what strategies are likely to evolve when pricing of scholarly materials becomes so central a concern with no relief forthcoming. It has been said that today we are forced to dismantle what research collections we have created and substitute with other methods that technology allows and perhaps we will recognize advantages and positive elements in cooperative ventures rather than despair.

In order to bridge the technology gap several themes can be defined and summarized. First, international cooperation among universities; second, adapting to the particular cultural context to be addressed by the institutions or disciplines providing the technology and finally, a minimum infrastructure involving the partnership of government, higher education and the private sector need to evolve.[1] Paul Mosher in an enlightening chapter published in 1989 examines the reality of cooperation and concludes that "Libraries can serve their patrons and programs better as they become less collection-driven and more client- and program oriented, "and this can be achieved by engaging in more cooperative practices. He goes on to say, "cooperation is achieved by working ahead, planning, reflecting and talking with both users and colleagues about the collections, the programs and aspirations for the collections of the future."[2]

The concept of information resource sharing has roots in the early libraries in Alexandria, however, coordinated collection development began to surface in the 1930's post-depression period when the first documented example of the practice emerged when the University of North Carolina and Duke University due to physical proximity began to depend upon each other for gaps in their respective collections. The basic definition of coordinated collection management suggests that resource sharing is a byproduct from the practice of having two or more libraries provide access to the literature of demand via using networks and other ways to transfer information. Interlibrary lending

and borrowing escalated to become a critical library function once technology alleviated the tediousness of manual searching of holdings in printed union catalogs.

How librarians working with science and technology materials have become so central in this often skeptical and perhaps cynical mode of information dissemination is what interests me today. The first major environmental factor to consider and which becomes the driving force, I believe, is the economics of the matter. The spiraling costs of materials, particularly in the sciences and applied areas is astonishing at best, and has not been curbed for over a decade, inflation and currency values notwithstanding. To make matters worse, we continue to experience an increase in specialization within the disciplines and an ongoing movement towards multidisciplinary work and research and large scale collaboration among scholars at different institutions and on different continents. The basic fact that so much collaboration is taking place between scientists and there are several contributors to each article should encourage librarians to practice similar tactics with their work.

Ann Okerson at the Association of Research Libraries (ARL) has already cautioned its members to not be alarmed by a continued proliferation of new work because with an average of 2.98 people contributing to an article that annually we compute a release of potentially only 326,000 articles rather than a million as reported earlier.[3]

What has emerged are many environmental barriers in the library or academic arena which make cooperation difficult when technical support now allows for more sophisticated cooperation. In the past two decades we have seen how libraries are becoming electronically-based and we already know that scholars in various disciplines depend on electronic retrieval and storage differently. That unevenness poses difficulties for collection development, because some heavily indexed and cited materials and proceedings and other serial titles are used often and the rest rarely leave the shelf. Among large libraries, the national conspectus is virtually complete in the sciences and other information products and developments such as the production of union lists, large and small, the sharing of large expensive microform sets, providing easy dial-up access to external databases all suggest cooperation is taking place.

The proliferation of publishing has forced librarians to rethink allocation formulas and the assumption that the materials budgets will stretch sufficiently to cover basic tools, much less respond to the predominance of research in the established as well as emerging sciences. Common threads in this dilemma suggest as Scott Bennett has, "The reality is that libraries are pursuing cooperative collection management not to reduce costs but to improve service."[4]

Again it is noted how the common practice of interlibrary lending and borrowing is probably the best example of what we do in resource sharing. National and international bibliographic utilities allow for librarians to know what is found in specific collections and to borrow on behalf of an information seeker. This process of information transfer will experience the most major changes in the coming year, as we see OCLC introduce an end user-based system to make borrowing requests rather than depend upon the institution to which they are affiliated to place the requests. This new practice poses challenges to libraries when it has assumed the entire burden of responsibility to locate the material, request it and return it to the owning library if it has not been copied. CARL also expects to support end-user requests for full text documents in its UNCOVER database as a fee-base service later this year as soon as copyright has been sufficiently handled and the exact logistics are worked out.[5]

Other associated challenges to the issues of cooperation have spearheaded new interpretations of the copyright codes and suggest the greater impact of compliance to copyright law for libraries.

Another factor is the development of telefacsimile and its common use in information transfer. A fundamental principle of science has been free and open communication of information and knowledge. Such principles have served the research community well and are imperative in order to advance the cause of technology transfer. Fax and telecommunications, more than anything else in technology, supports the notion that cooperation is but a phone call away. Costs are declining to send material by fax and the more rapid speed fax promises allows us to communicate globally and more or less legibly within moments. Additional software developments allow us to track our cooperative efforts, get management information reports and interpret what and how we do things, and see how optical scanning will contribute to this transmission.

Document delivery can claim to be born in the fax age. We now see electronic utilities demonstrate that not only do we have book and journal holdings mounted on an online system, but we have gateways to worldwide information through indexing and abstracting tools. Once we locate a citation, regardless of the format, yet basically restricted to print, we can expect to retrieve it and send it to the information seeker almost instantaneously. Much of the success of that information transfer lies in the fact that fax supports communication well and only requires telephone lines and a fax machine on both sides. The idea of full text retrieval is not a myth any longer, but a common practice allowing libraries to share information and holdings and satisfy users' requests. Database searching initially introduced full text capabilities as a fee-based function from database producers in the late 1970's and fee-based services have been created at many research libraries for users to tap when urgency and demand is great, and also to distinguish among various clienteles of users.

Technology currently allows libraries to deviate from common practices. We can store images and pages of information on disks with common denominators of nearly ten years of an average monthly or quarterly publication on less than on CD disk. It can be searched or browsed like any other index or table of contents device with many more points of access and read and copied endless times. The challenges that are introduced with such a product are that libraries and institutions of higher education need to realize that they will not measure holdings or success by number of volumes, browsing will take on another dimension, copies of text will be generated differently and that copyright needs to be clarified.

If collection development and management are to be the emphases of the 1990's, with access to information being the driving force, we can expect to witness a breakdown in organizational barriers and call for reexamining what research libraries do. Through history in academic libraries we measured success by the size of our collections and quantitative data which support how many professional people contribute to the collection development effort, how large a materials budget librarians have to manipulate, the buying power, amount of shelf space and more recently the shelf life and preservation practice we employ to take care of the materials. This raw data suggests that more of everything is better and rankings of libraries did not suggest the level of service a user could expect. Within the past month, Richard Dougherty in the Point of View column in The Chronicle of Higher Education challenges this exact paradigm and introduces two myths - one faculty use libraries more than anyone else, which really is not so because graduate students are known to be the major users, especially of sci/tech collections, and secondly, that the library is the heart of the academic institution. Dougherty concludes that statistical measures does not adequately describe the whole picture of academic libraries, including the service component and calls upon the ARL to develop alternative measures of quality.[6]

At a recent day-long forum held last week at the American Library Association meeting in Atlanta, publishers, vendors and librarians exchanged ideas about the marketing and selection of serials, fulfillment and distribution and what impact serials automation has had on serials acquisitions and use. The conclusion simply stated, is that libraries have many more options today due to technology and identifying access to provide information from wherever to users anywhere. Naturally there are costs associated with this.

Cooperation as a practice does not stand well alone without the support of the parent institution. Libraries tend to be the largest consumer of academic computing to support basic library functions, such as the circulation and tracking of materials - who has what, when will it be back, and what the particular status of an item is; acquisitions - when was some title ordered and from where and at what expense; serials - what publication records are there, when did they arrive, and from where and also at what price; cataloging or bibliographic control, the target of applications in this paper because it allows for the entire world to know what materials a library has.

Membership in consortia, prestigious and expensive affiliations to bodies such as the Center for Research Libraries (CRL) and general access to information by means of technology poses few physical obstacles in sharing information, but there are however many administrative challenges involved. This may include examining the local corporate culture within the library and institution as a whole, and perhaps the discipline in which the scholar or student studies, plus the unit cost of access vs. ownership. The emergence of database searching nearly twenty years ago, and the move towards end-user searching on CD-ROMs and OPACs forces the information seeker to assume there are virtually no barriers in retrieving whatever it is they seek. Strength in collections is defined by having the most esoteric or specialized collections, and when it is increasingly difficult to just respond to having the core literature of a given field in your holdings, the idea of strength is volatile and tough to support. Informal and formal professional groups such as IATUL conferences also offer opportunities to exchange information and cooperate.

Costs are associated with everything and technology does not come cheap. In order to support access and cooperation, an institution has to be committed to cooperation and automation. If collection development exists to support research and instruction in large academic research libraries, there already is a basic inherent commitment to enrichment, however as times become leaner and tougher, commitments for ongoing cooperation have to be carefully evaluated. Today we see how communication networks have erased the constraints of speed, cost and distance by the example of the incredible internet. What makes that mode so incredible is the handling of such a wide magnitude and volume of information with minimal costs associated to carry it out.

We may inquire why that is the case. Academe has overseers and oftentimes that becomes a competitive force. Accreditation by discipline and regional agencies looks at self-sufficiency for collections to support academic programs, the perceived loss of local control over collecting policies and practices and the ability to compete with peer institutions forces higher education to constantly rethink how valuable cooperation is, how to practice and interpret it.

In science and technology, with attempts to not only retain information but to be on the forefront of the cutting edge, forces additional pressures. Competition between commercial and scholarly publishing adds to the degree of misunderstanding and potential conflict among contributors or authors, publishers and users. More than in most disciplines the costs for science, technology and medical or (STM) are out of proportion. This is due in part to the fact that scientists survive on external support from grants for research suggesting how real the discrepancy between "rich and poor" is on a campus - the have support vs. the have nots.

Several major works have recently been released that demonstrate the difference between user expectations and level of satisfaction with the information transfer and example of cooperation, as well as the specific information needs of the scientist and engineer. Collection development policies are beginning to reflect materials which can be shared and how and by whom; monies are going into restricted pots for sharable items; pilot studies have become established practices among neighboring or like institutions who can support each other and we as bibliographers and selectors consult not only colleagues at our own institution but do so on the outside before we add, cancel or change the course of what we do and we depend on technology to communicate. There is also more of an open dialogue between librarians and publishers and suppliers and the librarians try to defend their case by negotiating more astutely for price and service advantages, stretching resources any way we can. However, more always needs to be done in this arena to assure that technology supports cooperative efforts.

Joint efforts between institutions, such as the Research Triangle in North Carolina, the nine campuses of the University of California, or on an international scale such as between Australian institutions and others in the Pacific Rim reinforce how exchange and cooperation can be beneficial. Each depends greatly on technology to conduct its information exchange and operate.

Libraries need to respond to information needs and academic programs by cooperating themselves. We have many examples of how this takes place currently, but we need to consider the future. It has been recognized for decades that technology is a good teaching tool as well as a learning objective because of the demands it places on the work force of the future. As librarians continue to integrate technology to enhance our efforts in cooperation, we will see more advances in resource-sharing such as increasing the speed of delivery and quality of access to information. There is no best solution to the scenario of "why can't I find my citation here?" but we will have many more alternatives to choose from in order to retrieve the information, all this becomes increasingly transparent to the information seeker. The practices may be different, may cost the user and the library money we did not have to spend before, but we do know there is a way and we can deliver upon it with more credibility than ever before. We are on the way to offer and practice increased global sharing and cooperation between libraries, institutions, governments and societies that we only had dreams of until recently.

Many broad issues were identified relative to why cooperative collection development is critical in today's global context. There is a range of problems involved in how cooperation can be more successful, how institutions of higher learning need to participate more fully in the practice. One can expect to see greater facilitating of free and informal exchange of scientific information though the development of an international communications network which establishes a set of standards and which is reliable and efficient, relatively inexpensive and user-friendly. Those are difficult goals to achieve, but with institutional support, creative leadership and direction, sound management and a commitment to cooperation we are already seeing great fruits of that labor and visionaries such as Ted Nelson of Autodesk, Inc., who predicts knowledge nodes in:

> "...Project Xanadu, a plan to use the world's computers as so many windows on all the writing ever produced...All this literature would be stored in one huge electronic file accessible from any PC or other computer. Anyone could browse randomly in this digital repository, choose any number of passages, and assemble them into a new document that would become another part of the Xanadu collection."[7]

Librarians and scientists alike should welcome the developments of the AAAS-OCLC joint sponsored new journal title created exclusively for electronic

reading.[8] Over time confidence will be fostered to resolve the image problems of transmission, even though there is much work to be done educating several constituencies, especially publishers and the editorial boards which still seem reluctant to move forth at a quick pace for the risks are seen as too great. The international community has been described as computer illiterate, which is far from the truth. Experience demonstrates how clogged electronic mailboxes already are, but technical advances may alleviate that. What challenges there are to overcome in electronic publishing seem trite if we can not see change in the academic peer review system as we continue to introduce new products.

As long as librarians and scientists are cautioned against depending upon models of cooperation and collaboration to satisfy only the woes in the economic climate and the dwindling buying power syndrome, technology can be the mode to allow libraries and their users to gain access to information worldwide and have confidence in manipulating it, storing it, preserving it and still find pleasure in reading and discovering new ideas. The shift from access to information about information to the information itself delivered directly to information seekers will bypass the library due to a better interface between library resources and retrievability.

Collection development activities will continue to reflect technological developments with greater reliance on bibliographic utilities and commercial sources to supply documents. As librarians we will be charged and challenged to spend our resources wisely, create special endowments for enrichment to collections and to guide our scientists to publish in more affordable and equally prestigious journals. Thus, there is both evolution and revolution taking place.

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